Supplementary Materials

Generalised linear models (GLMs) for nest success, survival, and sex ratio.

Appendix S1. GLM for sex ratio.

Each captured bird contributes one record to the data. In the language of program R the global model for the sex ratio GLM is given by:

glm(female ~ timeofyear+treat+the.year, data = the.data, family = binomial, na.action = na.fail)   (1)

Where:
female   = 1 if the bird is a female or 0 if the bird is a male
the.year = year as a factor – to allow for variation between years
treat = treatment block as a factor
timeofyear = days since the beginning of October

Appendix S2. GLM for nest success.

Each day during which a nest was monitored and did not fail contributed a record to the data with a fail value of 0 and an exposure value of 1. When a nest failed there was one further record in the data with a fail value of 1 and an exposure value equal to the interval between the last check when the nest was still active and the first check after it failed.

In the language of program R the global model for the nest success GLM is given by:

glm(fail ~ age + age2 + time since 1080 + rat + stoat + possum + distbuffer + distedge + nheight + alt + veg + offset(log(exposure)), data = newdat, family = binomial(link = "cloglog"))   (2)

Where:
Fail = 1 when the nest fails, 0 otherwise

age + age2 = polynomial terms for nest age

Time since 1080 = factor term for the time since the last 1080 operation.

rat = index of rat abundance

stoat = index of stoat abundance

possum = index of possum abundance

distedge = distance to edge of the treatment area

nheight   = nest height above the ground

alt = altitude metres above sea level

veg = factor term for forest type

Four different categorisations of time since 1080 were used in competing models:

(1) Time since 1080a (3 categories): (a) < 1 year after a 1080 operation, (b) 1–2 years after a 1080 operation, and (c) > 2 years after a 1080 operation.

(2) Time since 1080b (2 categories): (a) less or (b) more than a year since a 1080 operation.

(3) Time since 1080c (2 categories): (a) less or (b)more than 2 years since a 1080 operation.

(4) Time since 1080d (2 categories): (a) treated at least once, or (b) never treated with 1080.

Appendix S3. GLM for survival.

Each day during which an animal was monitored contributed one record to the data set, with a fail value of 1 if the animal died on that day, or 0 otherwise.

In the language of program R the global model for the survival GLM is given by:

glm(fail ~ forest + time since 1080a + time since 1080b + time since 1080c + time since 1080d, data = newdat, family = binomial(link = "cloglog"))   (3)

Where:
fail = 1 when the animal died, 0 otherwise
forest = factor term for forest type

(1) Time since 1080a (3 categories): (a) < 1 year after a 1080 operation, (b) 1–2 years after a 1080 operation, and (c) > 2 years after a 1080 operation.

(2) Time since 1080b (2 categories): (a) less or (b) more than a year since a 1080 operation.

(3) Time since 1080c (2 categories): (a) less or (b) more than 2 years since a 1080 operation.

(4) Time since 1080d (2 categories): (a) treated at least once, or (b) never treated with 1080.